JCB
THE JOURNAL OF CELL BIOLOGY
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Bärenz et al. demonstrate that the centriolar satellite protein SSX2IP promotes centrosome maturation. In contrast to the classic satellite marker PCM-1 (blue), SSX2IP (red) localizes to the spindle poles in mitotic cells. Spindle microtubules are shown in green and DNA in pink.

Image © 2013 Bärenz et al.

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81 The centriolar satellite protein SSX2IP promotes centrosome maturation
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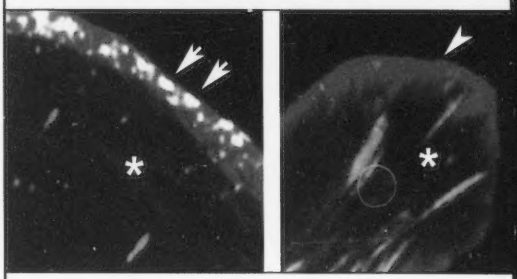

Thievessen et al. investigate how the actin-binding protein vinculin affects the dynamics of F-actin (green) and focal adhesions (magenta) at the leading edge of migrating cells. In comparison to a wild-type cell (left), a vinculin-knockout fibroblast (right) forms fewer nascent adhesions in the actin-rich lamellipodium at the cell edge (arrows/arrowhead) but grows larger adhesions further back in the cell's lamellum (asterisks).
Image © 2013 Thievessen et al.
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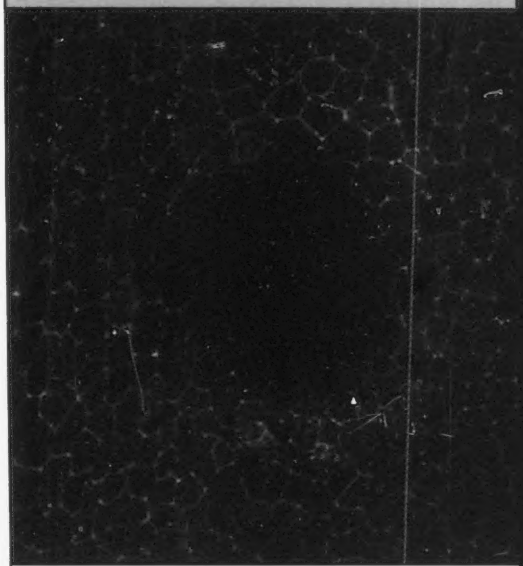

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In a laser-wounded *Drosophila* pupal notum, epithelial cells are labeled with E-cadherin (green) and the actin-binding protein moesin (red). Antunes et al. investigate the early stages of epithelial wound closure, identifying a wave of actomyosin assembly and cell constriction that flows toward the wound edge. Image © 2013 Antunes et al.

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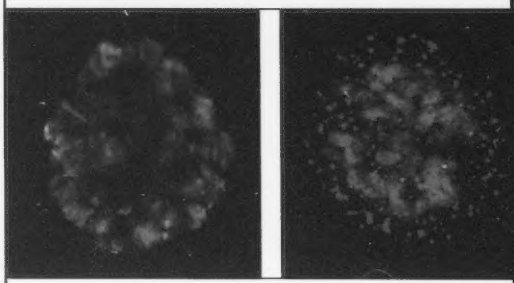

Under normal, isotonic conditions (left), the chromatin insulator protein CP190 (green) displays a characteristic band pattern on the polytene chromosomes (red) of *Drosophila* salivary gland nuclei. In osmotically stressed nuclei (right), however, CP190 dissociates from chromatin and assembles into insulator bodies at the nuclear periphery and in interior spaces devoid of chromosomes. Image © 2013 Schoborg et al.
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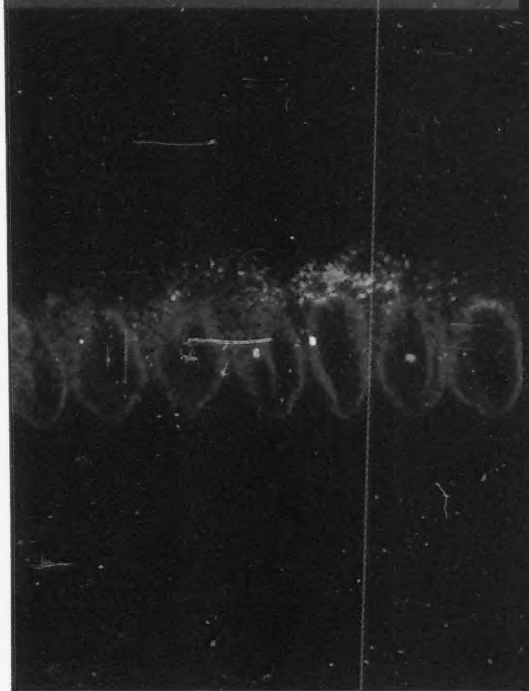

On the cover

In an early *Drosophila* embryo stained for the nuclear envelope (green) and DNA (blue), *hairy* mRNA (magenta) accumulates in the apical cytoplasm. Dix et al. reveal that the Lissencephaly-1 protein promotes the recruitment of dynein and dynactin to *hairy* and other mRNA cargoes to facilitate their transport along microtubules.

Image © 2013 Dix et al.

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479 Lissencephaly-1 promotes the recruitment of dynein and dynactin to transported mRNAs
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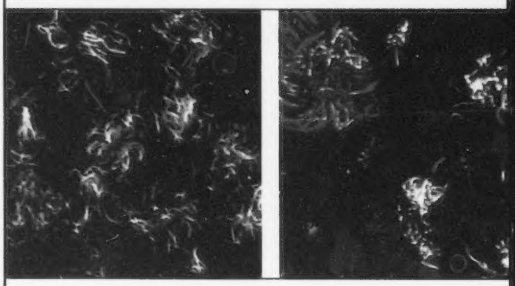

Bosch Grau et al. analyze the effects of tubulin-modifying enzymes on ciliary microtubules. Brain ependymal cells usually form multiple cilia that contain both polyglutamylated (red) and glycylated (green) microtubules (left). In the absence of the tubulin glycylase TTLL8 (right), however, the number of multiciliated cells is greatly reduced. Image © 2013 Bosch Grau et al.
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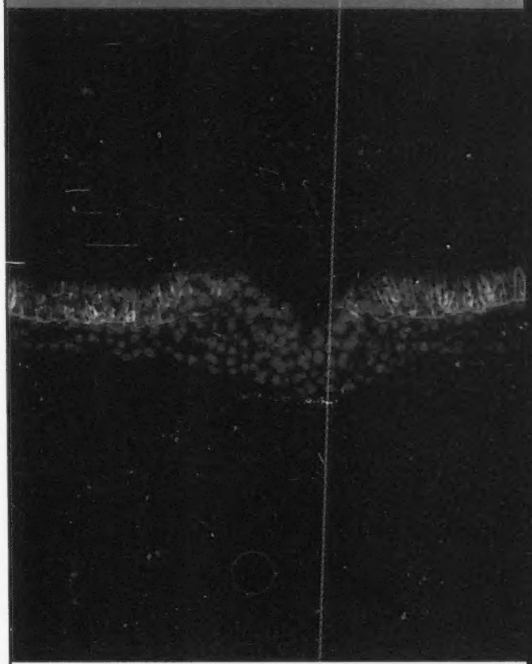

On the cover

A cross-section through the primitive streak of an early chick embryo shows how the cell adhesion protein β-dystroglycan (red) is down-regulated in epiblast cells undergoing epithelial-to-mesenchymal transition during gastrulation. Nakaya et al. reveal how this process is regulated by the CLASP family of microtubule plus-end tracking proteins. Nuclei are labeled green. Image © 2013 Nakaya et al.
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715 Complete repair of dystrophic skeletal muscle by mesoangioblasts with enhanced migration ability
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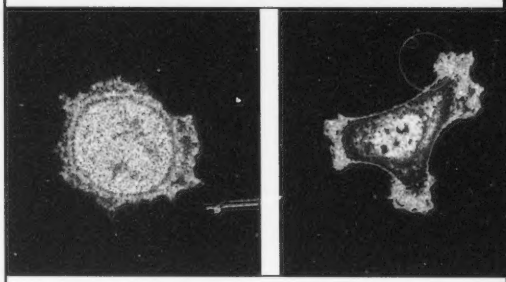

A FRET-based biosensor monitors the activity of the calcium-activated protease calpain in a control cell (left) and a cell overexpressing the Golgi anti-apoptotic protein hGAAP (right). hGAAP enhances calpain activity (red) near the plasma membrane, thereby promoting focal adhesion turnover and cell migration. Image © 2013 Saraiva et al.
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807 Distinct signaling mechanisms regulate migration in unconfined versus confined spaces
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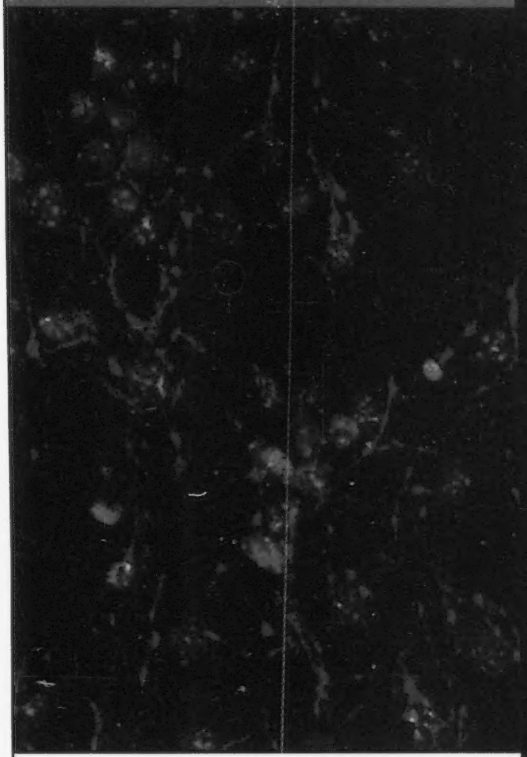

On the cover

Cultured dorsal root ganglion neurons lacking the E3 ubiquitin ligase PHR1, which targets the kinase DLK for proteasomal degradation, display high levels of phosphorylation of the MAP kinase JNK (green) in their axons. Huntwork-Rodriguez et al. show that a rapid increase in the abundance of DLK protein occurs after neuronal injury and is important for initiation of downstream signaling events and neuronal apoptosis. Nuclei are labeled red.
Image © 2013 Huntwork-Rodriguez et al.
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Corrections

825 IKK/NF-κB regulates skeletal myogenesis via a signaling switch to inhibit differentiation and promote mitochondrial biogenesis
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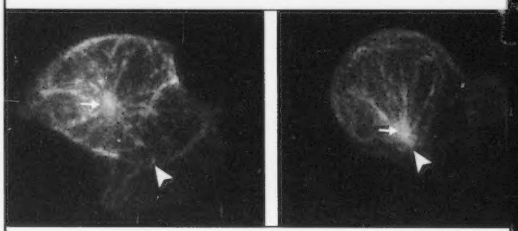

A time-lapse series shows the movement of a T cell's centrosome (white arrow) to the center of the immunological synapse (yellow arrowhead) where the lymphocyte contacts an antigen-presenting cell. Yi et al. reveal that centrosomes are pulled into position by the dynein-dependent capture and depolymerization of microtubules (green) at the immunological synapse. The T cell's plasma membrane is labeled red.
Image © 2013 Yi et al.
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901 Rap1 potentiates endothelial cell junctions by spatially controlling myosin II activity and actin organization
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Confocal microscopy shows the tail skin of a control mouse stained for keratin 14 (red) and DNA (blue). Niessen et al. reveal that, in the absence of atypical protein kinase Cλ, epidermal homeostasis and differentiation are disrupted due to an increase in asymmetric cell divisions.
Image © 2013 Niessen et al.
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917 RCP-driven α5β1 recycling suppresses Rac and promotes RhoA activity via the RacGAP1–IQGAP1 complex
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In mouse dermis, the extracellular matrix component collagen (green) is partially degraded and internalized into the endosomes and lysosomes (labeled with dextran, red) of cells (nuclei labeled blue). Madsen et al. reveal that collagen uptake and turnover is mainly carried out by a small population of M2-like macrophages.
Image © 2013 Madsen et al.
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On the cover

Super-resolution structured illumination microscopy of a spermatocyte chromosome spread reveals rings of KASH5 (green) at the tips of homologous chromosome pairs stained for the axial element protein SCP3 (red). Horn et al. demonstrate that KASH5 is part of a mammalian LINC complex that spans the nuclear envelope to connect meiotic chromosomes with cytoplasmic dynein, allowing the chromosomes to cluster together and form homologous pairs.
Image © 2013 Horn et al.
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1107 Recruitment of folliculin to lysosomes supports the amino acid–dependent activation of Rag GTPases
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1123 Synaptic mutant huntingtin inhibits synapsin-1 phosphorylation and causes neurological symptoms
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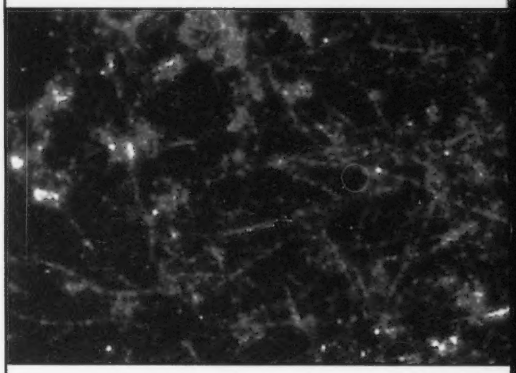

By treating cells with latrunculin A, Luo et al. reveal the existence of a contractile cytoskeletal network formed by nodes of actin filaments (red) that contain the formin DAAM1 and the crosslinker filamin A and are connected to each other by myosin II.
Image © 2013 Luo et al.
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